

I. AMENDMENTS TO THE CLAIMS

Claim 1. (Currently Amended) An apparatus for manufacturing a glass base material and maintaining the purity of a raw material which is a parent material of an optical fiber, comprising:

a tank which contains a raw material of a glass base material to vaporize said raw material and generate the raw material in the gas phase;

a temperature control unit consisting essentially of a temperature control circuit, at least one heat source, and at least one temperature sensor, which controls a temperature of said raw material to be constant; and

a pressure control unit consisting essentially of at least one carrier gas control valve, at least one carrier gas supply unit, a pressure control circuit, and at least one pressure sensor which controls a pressure of said raw material in the gas phase to be constant.

Claim 2. (Previously Presented) An apparatus as claimed in claim 1, wherein said tank includes:

a gas phase region which contains said raw material in the gas phase; and

a liquid phase region which contains said raw material in the liquid phase.

Claim 3. (Previously Presented) An apparatus as claimed in claim 2, wherein said temperature control unit and said pressure control unit control a partial pressure of said raw material in said gas phase region by controlling an equilibrium vapor pressure in said gas phase region and said liquid phase region.

Claim 4. (Currently Amended) An apparatus as claimed in claim 3, wherein said ~~pressure control unit has a carrier gas supply unit~~ **[, which]** supplies a carrier gas for controlling said equilibrium vapor pressure, by bubbling said carrier gas through said liquid phase region.

Claim 5. (Original) An apparatus as claimed in claim 4, wherein said carrier gas supply unit has a carrier gas cylinder which supplies said carrier gas to said carrier gas supply unit.

Claim 6. (Original) An apparatus as claimed in claim 1, further comprising at least one reaction vessel where said raw material in gas phase is supplied and said glass base material is formed by hydrolyzing said raw material in gas-phase.

II. REMARKS

Preliminary Remarks

Upon entry of this amendment, claims 1-36 will be pending in this application of which claims 1 and 24 are independent. Claims 1, 4, and 24 are amended. Support for the claim amendments can be found in the specification as filed (*e.g.*, Figure 1; page 2, lines 12-21). Therefore, the applicants believe that no new matter has been added as a result of these amendments.

The applicants respectfully request reconsideration and allowance of the present application. This response is filed along with a Request for Continued Examination (RCE) pursuant to 37 C.F.R. §1.114.

Patentability Remarks

Rejections under 35 U.S.C. §102(b) –

Claims 1-5 and 24 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by McMenamin (EP 0 040 540). The applicants respectfully traverse.

As amended, claim 1 is directed to, *inter alia*, a temperature control unit consisting essentially of a temperature control circuit, at least one heat source, and at least one temperature sensor, and a pressure control unit consisting essentially of at least one carrier gas control valve, at least one carrier gas supply unit, a pressure control circuit, and at least one pressure sensor.

As amended, claim 24 is directed to, *inter alia*, controlling a temperature of said raw material to be constant by means of a temperature control unit consisting essentially of a temperature control circuit, at least one heat source, and at least one temperature sensor by adjusting said heating of said raw material, and controlling said partial pressure of said raw material to be constant by means of a pressure control unit consisting essentially of at least one carrier gas control valve, at least one carrier gas supply unit, a pressure control circuit, and at least one pressure sensor.

These claim limitations are not taught by McMenamin. McMenamin is interested in controlling both temperature and pressure via a vapor mass flow controller 40 (page 4, line 33 to page 5, line 33). The examiner alleges that McMenamin “anticipates separate controls for

temperature and pressure existing on common circuits.” Even if that were the situation, McMenamin does not anticipate the present invention.

In the present invention, the temperature is controlled separately from the pressure. By using the term “consisting essentially of,” one of ordinary skill in the art would recognize that only items related to temperature control, *e.g.*, a temperature control circuit, at least one heat source, and at least one temperature sensor, would be present in the temperature control unit. Similarly, only items related to pressure control, *e.g.*, at least one carrier gas control valve, at least one carrier gas supply unit, a pressure control circuit, and at least one pressure sensor would be present in the pressure control unit. One of ordinary skill in the art would not place temperature control items in pressure control units and vice versa. Therefore, McMenamin even with temperature and pressure controls existing on common circuits cannot anticipate claims 1-5 and 24 and the applicants respectfully request removal of this rejection.

Rejections under 35 U.S.C. §103(a) –

Claims 6, 7, 16-23, and 27-36 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over McMenamin in view of Saitoh *et al.* (U.S. Patent No. 5,250,097). The applicants respectfully traverse.

These claims are all directly or indirectly dependent on claim 1. McMenamin does not teach or suggest many limitations of the applicants’ invention as claimed, *e.g.*, at least one reaction vessel where the raw material in gas phase is supplied and the glass base material is formed by hydrolyzing the raw material in gas-phase (claim 6); wherein said reaction vessel has a cooling unit that circulates cooling water which contains an anticorrosive chemical (claim 16); and controlling a flow rate of the raw material in the gas phase, and supplying and hydrolyzing the flow rate controlled raw material in the gas phase (claim 27).

Saitoh *et al.* do not overcome the deficiencies of McMenamin. For instance, there is no mention of pressure control in Saitoh *et al.* Therefore, the combination of McMenamin and Saitoh *et al.* does not teach or suggest all the limitations of claims 6, 7, 16-23, and 27-36 and the applicants respectfully request removal of this rejection.

Claims 8-15 and 26 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over McMenamin in view of Saitoh *et al.*, and in further view of JP 9-110457. The applicants respectfully traverse.

Neither McMenamin nor Saitoh *et al.* teach or suggest all the limitations of the amended claims. The examiner is using JP 9-110457 because it describes a filter for gas


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feeds. However, JP 9-110457 does not overcome the deficiencies in either McMenamin, Saitoh *et al.*, or the combination thereof. Consequently, claims 8-15 and 26 are not unpatentable over McMenamin, Saitoh *et al.*, and JP 9-110457 and the applicants respectfully request removal of this rejection.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any point remains in issue that the examiner feels may be best resolved through a personal or telephone interview, the examiner is strongly urged to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

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